



Product Data Sheet

Lexan® FR 700 Film

Description

Lexan FR700 is a black one fine side matt, one side velvet flame retardant polycarbonate film with a UL94-V0 listing at 0.250 mm.

Lexan FR700 can be thermoformed, hydroformed, easily die-cut, embossed and remains in place after bending.

Its excellent mechanical properties, good dimensional stability at high temperatures and high flammability rating make FR 700 very suitable for applications such as:

- power supply insulation
- disc drive insulation
- bus bar insulation
- TV/monitor insulation
- PC board insulation
- business equipment insulation
- insulation and EMI/RFI-shielding when laminated with metal foil

Configuration

Finish	Standard gauges (mm)	Color
velvet/fine matt	250	black
	430	
	750	

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Property	Test Method	Unit	Value+
Physical			
Specific Gravity	ISO 1183	g/cm ³	1.32
Water Absorption, saturation/ @23°C	ISO 62	%	0.28
Mechanical			
Tensile stress at yield	ISO R527	MPa	65
Tensile stress at break			60
Tensile Modulus	ISO R527	MPa	2100
Tensile Strain, break	ISO R527	%	25
Gardner Impact Strength	Gardner	J	6.2 (0.75 mm film)
Tear Strength			
Initiation	ASTM D1004	kN/m	298
Propagation	ASTM D1922	kN/m	6
Thermal			
Tensile Heat Distortion at 0.35 N/mm ²	ASTM D1637	°C	150
Thermal Conductivity	DIN 52612	W/m.°C	0.19
Glass Transition	DSC	°C	156
Electrical			
Dielectric Strength, 23°C, in oil, 0.25 mm	IEC 243-1	Volts	17,000
Relative permittivity @ 50 Hz	IEC 250	-	2.9
@ 1,000 Hz		-	2.8
@ 1,000,000 Hz		-	2.8
Dissipation Factor @ 50 Hz	IEC 250		-
@ 1,000 Hz			0.0026
@ 1,000,000 Hz			0.0028
Volume Resistivity	IEC 93	ohm.m	10 ¹⁶
Surface Resistivity	IEC 93	ohm	10 ¹⁵
Flammability			
UL Flammability*	Bulletin 94	-	V0, 0.250 mm
Oxygen Index	ISO 4589	%	33
Flash Point		°C	440
Self-Ignition Temperature		°C	605
FMVSS 302	ASTM D618	-	All Pass
NFPA 258-NBS	ASTM E662	-	D(4) = 6
Smoke Chamber Test, 0.25 mm		-	D(max) = 36

+ Typical values only

* This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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Agency Summary

Lexan FR700 film has been tested under a number of agency testing protocols including UL746A and UL 746B, IEC publication 85 and CSA 22.2 Class 905230. The tables below summarize our UL and CSA listings for Lexan FR700.

UL Listing Summary

File #E61257(R)											
Material	Colour	Thickness mm	UL-94 Flame Rating*	Elect.	Relative Thermal Index		Performance Level Categories (PLCs)				
					With Elong. (tensile)	Without Elong.	H I	H I	V R	4 5	C T
Lexan FR700	bk	0.25-0.35	V0	130	125	130	1	0	-	-	3
	bk	0.375-0.74	V0	130	125	130	0	0	-	-	3
	bk	>= 0.750	V0	130	125	130	0	0	-	-	3

CSA Listing Summary

File #LR84942										
Material Type	Minimum Thickness mm	Temp. Class	Requirements in standard							
			CSA C22.2 No.							IEC No.
			1-M1990	6-M1984	66-1988	223-1987	234	950	65	950
Lexan FR700	0.25	130°C	A	A	A	A	A	A	A	A

Note: 'A' indicates compliance with all of the requirements of the indicated agency standard.

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